RI Water Resources Board

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Rhode Island Water Resources Board

Water Management System Implementation Team

Meeting Minutes

Wednesday, November 3, 2004

1. Welcome and Approval of Minutes -

Mr. Dan Varin called the meeting to order at 9:15 a.m. He welcomed attendees to the seventh meeting of the Water Resources Board Water Management System Implementation Team. He requested approval of the October 6, 2004 meeting minutes. A motion to approve the minutes as corrected was made and seconded. The minutes were approved with corrections. Mr. Varin next turned the meeting over to Ms. Kathleen Crawley, meeting facilitator.

Ms. Crawley welcomed members and referenced materials that will support today's discussion on appropriate strategies:

October 28, 2004 Email Attachments and References

1. **November 3, 2004 Meeting Agenda**
2. **October 6, 2004 Implementation Team meeting minutes**
3. **Water Management System Elliptical chart narrative**
4. **Lower Blackstone 2-Page Fact Sheet**
5. **Clear River 2-Page Fact Sheet**
6. **Abbott Run 2-Page Fact Sheet**
7. **Local Comprehensive Plan: Implementation Plan**

Meeting Handout Materials

1. Lower Blackstone Fact Sheet (Updated 11/1/04) and 6 Sub-basin Fact Sheets

2. BioScience article Quenching Urban Thirst: Growing Cities and Their Impacts on Freshwater Ecosystems, August 2004/Vol. 54 No. 8 (provided by E. Marks)

3. CEI Environmental Edge Newsletter, 2004, Water Wars Part 4: Long Term Solutions

4. Fairbank, Maslin, Maulin & Associates – Opinion Research & Public Policy Analysis June 1 2004 Memorandum Lessons Learned Regarding the Language of Conservation from the National Research Program

Mrs. Crawley welcomed new members and asked members to introduce themselves. After introductions, she stated that today's meeting would focus on identification of various conditions within the sub-basin and a discussion of appropriate strategies and technical assistance actions.

She recommended a brief walk-through the handouts for today's meeting and then facilitation of discussion and take what is discussed today to complete each narrative for the sub-basin fact sheets. Instructions on how to implement actions what appropriate strategies to address the various layers will complete today's work. The first layer of what we are trying to do is to identify what the conditions of the various sub-basins are. The next layer will be to think about what strategies would be appropriate and then how this

will be incorporated as advise for Handbook 16 and other sources.

Mrs. Crawley referred to the elliptical chart narrative description that included a brief statement of each of the ten elements. Members discussed revisions to the Elliptical Chart narrative. Several recommendations were made to improve the wording of the element descriptions (the use of a more active bullet for Element #9 and inclusion of watershed councils in one or more elements). Ms. Crawley stated that the intent of the Team minutes is to incorporate all of the discussion into narrative that will become Volume I.

She referred to today's meeting materials referencing the summary fact sheet for the Lower Blackstone Basin, and 6 sub-basins (Abbott Run, Clear River, Chepachet River, Branch River, Peters River, and West River sub-basins). She recommended that the discussion begin with these fact sheets. She stated that members had recommended that the 1 in 20 year figure be used but the lack of historical data was not available. Dr. Veeger agreed that pinning down what the number would be would be difficult, would open the door to arguments, and divert the attention away from the what main goal. Mrs. Crawley stated that what we do have is a statistical representation from the studies stating how much water is available using the 25th percentile which shows that at least in one in every 4 years there is less water based upon the period of record. The fact sheets are based on the 25th percentile figures taken from the USGS Water Resources Investigations Report 03-4190, and you will notice that the

allocateable water column is blank because certain decisions must be made about flow and what is or is not allocateable, and also some level that is more appropriate for planning purposes. None of these decisions have been made at this time.

Dr. Veeger reminded members that the Technical Committee had discussed not providing an absolute number but identifying a certain level of stress conditions that will be used to inform us as to strategy and actions needed to sustain water needed in the basin. Mrs. Crawley agreed, noting that the other piece that has not been developed is how to project the amount of water that we are going to need. The first layer is to look at the resource itself within the sub-basin and basin without complicating the picture about where people believe they will be getting water from, or how many more people will live there but more from a land use perspective, what exactly are the resources that are there, and what is coming out of the resource, and what exactly is the future demand on the resources that are there, and is it sustainable. That is the kind of thinking that we are looking to create with land use decisions with water and in other areas where there are water resource considerations. This will be the first layer so we can talk about things.

Question: In the chart with the basin stress ratio, should this be portrayed as a percentage?

Response: The basin stress ratio is the attempt to look at short-term

water use compared to long term water availability in the region. That ratio is the quantity of water available related to the total amount of useable water.

Statement: I'm having trouble with the math. For example, Abbott Run, the figures don't add up. Also, we had the discussion about how different it is with sub-basins that have water storage and for those that don't. I recommend that a row for each of those, and maybe a separate stress number for those that have storage. Otherwise you will have a strange set of numbers that will be difficult for even us to interpret.

Statement: The surface water bodies in the Lower Blackstone and Abbott Run sub-basin are the fact sheets effected with surface storage, and the surface water is a superimposed number on top of that availability base flow number, and is the safe yield number. The ratio is a better indicator of stress in groundwater areas. We must recognize the difference in areas based on the availability of storage. The ratio begins to inform to begin looking at the differences in the sub-basins, and that is important.

Question: Would it be possible to have a row to talk about storage?

Response: Well, generally hydrologists understand this "stress ratio." If we look at the Lower Blackstone fact sheet where the basin stress ratio is .7 in August we are using essentially .7 of available

water. This is a seriously high rate. Then look at a sub-basin where we are using .96 – here we have a sub-basin where the water appears to be totally used. What does that say for the total aggregate basin? We need to convey the differences within the sub-basin and how it contributes to water availability within the total basin.

Statement: We need guidance and additional detail for interpretation. Perhaps a narrative of 2-3 paragraphs for an executive summary that provides details and specificity to assist local planners. Policy makers will be led by short paragraphs.

Facilitator: What I have heard so far is that we need to add a row so that for folks who don't want to do the math can see how we got to the ratio number. The safe yield number as well as that other number should be added.

Question: Do you think that this will help to explain the numbers in the Abbott Run sub-basin where withdrawals are greater than the supply?

Facilitator: I do know in the report that in Abbott Run was using 136% of their safe yield simply because they had more water available in storage.

Question: So why isn't that stress basin greater than 1? Since in all situations their average withdrawal is greater than 1 so the ratio

should show that they are in effect depleting their storage. What number divided by what is making these ratios? What's being divided is the sand and gravel deposits in the sub-basin but that is not the total water available.

Facilitator: The purpose of the tables is to simplify the information. There is backup for everything in detail in the report. We are trying to provide the minimum of information so people can make decisions, and then direct them for additional information, if they need it.

Statement: Don't make these reports too simple. You need to include the math so people understand what you are trying to say. I recommend that you deal with "average," not 25%.

Facilitator: Twenty-five percent is what we are calling average. The intent is to try to make it simple. We probably need to have Jim Campbell available to tell us what everything means. Between the fact sheet and the detailed report, the question remains how do we get the information to the planners for planning purposes. What we provide to the local planners needs to be useful to them; we can not make the decisions for them as we don't know what they know.

Question: The stress ratio – will this be a rolling average and updated over time, particularly in areas of fast population growth? I think we should recognize that these figures will change, particularly in areas where we anticipate growth.

Question: Where is the reference to consumptive water use? Is domestic water use broken out in terms of priorities versus some of the other domestic uses. Consumption and water use are different. There are return flows for certain kinds of uses, and acknowledging those returns may be a significant number.

Response: This first run is to look at what's withdrawn in the basin. In a sense it is looking at withdrawals and impacts without looking at particular basins. These are total withdrawals based on the period of record. I (Jim) will look at the figures; I don't believe they are statistically significant but the industrial/commercial numbers may not be included.

Question: If consumptive use is incorporated, will this misrepresent the stress level? What will happen if the stress levels increase and the supply remains constant? We could be perceived as having inflated the numbers for a policy decision. We need to be very up front and state what we know and what we don't know. We should define average withdrawal clearly; if we believe we should use consumption then we should define that clearly, too. We must state that the numbers can change over time.

Statement: Perhaps we can add footnotes to clarify the numbers. A Fact Sheet narrative should clearly define each block of numbers.

Facilitator: Our desire is to take all of the comments and recommendations made in today's meeting, and to get new information back out to you, that hopefully clarifys these questions and comments. We do need to clarify define what we are doing. We did some of that in the Technical Committee worked over 6 hours on this topic, and submitted their recommendations.

Statement: This sounds to be the key to the whole thing. The boxes that are filled in and the water that can be allocated….the point is how much can be allocated. I look at this table as it stands now and there is no water. The numbers should make sense so that the decision can be made that yes – an industry can be located here, or no, it can not because there is not enough water.

Statement: In many cases the withdrawal and return take place in widely separate places. If you go to consumption this may not help to make decisions on what happens at the opposite end of the system.

Question: Where are those uses where there is a large withdrawal and return occur together?

Response: I guess wherever there are sewers, and the discharge point is lower than that. So the estuaries would be counted. It would be dumped back into the basin but in a very different location. Getting to what can be allocated is the problem. I don't think we have

enough information to put that number out. I think we should stick with the stress ratio, and try to identify what basin where we might have a problem. Until we take a site specific look , where there is recharge, etc. it will be very difficult to tell the community there is or is not a problem. Broadly, this information will identify where the stresses are in a given basin. This broad look is reasonable.

Statement: We need to look at water quality in the basin. Without addressing that we are missing a large part of the picture. We need to include water quality information. DEM has codes for groundwater, and this should be incorporated into our work. There is the impaired water list but this presents fine detail. I think it would be helpful to package this information in the sub-basin fact sheets. It would not be helpful to incorporate the information into the numbers. There should be a little package for every sub-basin – surface water and groundwater quality. This information is broken down on the web by watershed.

Statement: We need to keep our objective in mind – what will help municipalities make land use decisions?

Statement: We must remember that perfection is the enemy of pretty good. I think the fact sheets provide information that will then create the need to provide technical assistance that will be defined based on the municipal needs. The fact sheets will provide an empirical method to alert people that there is a problem.

Facilitator: The work begins to tell us to take a closer look at sub-basins when we do other studies – optimization studies, etc. We have to take this first step first.

I think the top level of these tables can't be an optimistic viewpoint We need to get peoples attention that there could be a water issue but there could be an opportunity here. The returns we are talking about are presenting a much rosier picture but then we get to the water quality issues which may point out, yes, you wouldn't want to have it coming out of your faucet but it might be useable in some other shape or form. This is what we will find as we start to dig down further but the initial picture is black and white – the initial picture. This could present other opportunities for further conservation, etc.

Question: How do we define "available"? Is that water that all the water or is it only drinkable water? We will need to clarify this.

Statement: Howard Cosell said "We must tell it like it is." One thing we must do is convey the fact that efficient conservation can decrease withdrawals. I wouldn't attempt to put numbers on that but I believe that. Water availability should be clearly defined in the draft narrative discussion.

Facilitator: I fully agree. It's about time for a break but I want to call your attention to the conservation materials distributed as handouts

today. I refer you to the conservation handout on Public Opinion Strategies.

Break 10:05-10:15

Facilitator: If we continue on into the sub-basins. I think we have a pretty good idea on what we should do with the first table. Today's discussion is exactly what we hoped for. I want to thank you all for the good discussion and good suggestions.

Statement: I was reflecting on the discussions that we have been having in this room for the last several months on water have been more on the mark in terms of what we can do for land use planning, local planning better than most groups that I have worked on. I just want to say that I like this work and process.

Facilitator: Thank you. This is a result of great leadership and the great group of people that we are working with on this process. Ok, so we took our first layer. We want to look at the resources themselves, and we want to look at the health of the resources, and begin to develop strategies. Now we are in Part C – public and self-supply withdrawals so we get a closer look at what's happening. I may be skipping over parts but we can discuss this. But, for now, we will begin to talk about water use, non-account water, public and self –supply, and includes a breakdown of domestic, commercial, industrial use figures.

Statement: The distinction between withdrawals and use differences is confusing. I recommend we get definitions and description up front so people will understand. When we talk about water use in the basin are we talking about of the withdrawals or use, or is this of the people in the basin and how they use it.? If those people get their water from somewhere else, are those figures included?

Response: It is the people who live in the sub-basin. Yes, the numbers (of water obtained from somewhere else) are included. Use figures use imported water.

Statement: We need to use the flow diagram because I can guarantee that people don't get confused. A visual picture will help towards understanding. Perhaps the Florida flow diagram template could be used so people can see the flow of water going in and out. Perhaps colors to help describe the flow.

Facilitator: We used the the Florida template in the 'context" chapter, and we should use this to describe what is happening in the basin and sub-basin. Do we agree that this would be the way to proceed?

Statement: When we talk about domestic use, we should refer to the population projections as this will drive the increase in usage. Beth will your analysis show differences in population projections in Cumberland and other areas? These areas seem to be growing as

increasingly there is more pressure for Boston commuters to live in the Blackstone area. This will definitely put pressure on residential use. In the kinds of projections that we make, how we make our assumptions, will be very important, and, in the second table under C – we will need to identify the assumptions. I think we see changes in immigration patterns of single families moving out and living in suburbs.

Statement: Yes, (Beth), I can show differences in the buildout and projections. But the projections won't be one number – it will change over time. Perhaps high, medium, and low projections can be made.

Statement: I would caution against moving too far away from the state population projections as these are the numbers verified and used in the local comprehensive plans. The end game is to get all of this incorporated into the planning process.

Statement: I understand. I think the idea of a range is very important here. I also think that it is important, with all due respect to the statewide planning process, that it bears watching that these new dynamics may require us to reevaluate some of the assumptions that underpin the Statewide Planning projections. The current situation is a contemporary phenomena. . We have certainly seen the pressure that the housing market moving steadily south and west of Boston. Regional economy affects the housing market.

Facilitator: The water resource assumptions must include a caveat that the numbers are reliable for land use planning for probably a 10-year period. Does the state have the ability to project forward by sub-basin? This could be used to create a baseline of sub-basin population. The other piece would be land use. I don't know if we can do this but is it possible to identify how many people live in the Subbasin. Do we have the ability to project forward?

Response: Yes, but the sub-levels lose some reliability. We will be putting the pieces together, and this may become a technical assistance pieces.

Question: What does "MCD" stand for? MCD = Minor civil division: used by USGS to describe a town or city.

Facilitator: Are there any comments on water use? How about disposal or wastewater?

Statement: NPDES should be defined and discussed in the narrative section. NPDES is part of the national program under the Clean Water Act. That brings up the issue that under new storm water regulations, it may be good to include new storm-water discharges. Meters measure the rate of flow for the structure to handle. Slightly difference terms are used from the water supply. The point would be not to trip over the terminology.

Statement: The follow up tables should explain the export and import more clearly, where the water or discharge is going. A general and detail explanation for significant movement is required to avoid misinterpretation. The context section should define the general explanations.

Facilitator: Are there other comments on the sub-basin fact sheets?

Question: In the disposal and wastewater management section, and the on-site septic number is that an estimated number? I'll use Jamestown as an example. If we take how much water people are being billed for and we compare that to how much water is being treated, we find that they are billing for only a quarter of what they are treating. So, depending on what number your using, the question is, where there is not a lot of inflow, are we subtracting off that percent. So in the water use studies, in the table, it actually does subtract off the difference. So what you say is getting discharged has that figure taken out of it. Are we looking at the net use in the sub-basin? Is consumptive use embedded in this? A technical guidance narrative needs to address this but we need to be consistent in our portrayal of the data.

Response: Yes, if looking at net use in local.

Facilitator: In terms of presenting an overview of the entire basin is everyone comfortable with the information? These sub-basins are

delineated on the basis of topography of the watershed. In this basin the sub-basins are HUC 14; in other areas of the state, there are different delineations. For example, the Pt. Judith area. Jim plans to change some of the delineations for consistency.

Question: The return flow numbers do not add up. Is on-site septic included? The math doesn't add up on the Lower Blackstone table.

Response: I (Jim) will get clarification on total return flow. Not all the categories are included in this table, and this will need to be explained.

Facilitator: What do some of these things tell us about the sub-basin and how do they guide us in strategies and discussion?

Response: The sub-basin fact sheets are good. I recommend amended tables that include ground and surface water.

Facilitator: We need to fill in the future projections to help us develop guidance. Concrete numbers will aid in the development of the guidance piece. We will try to get a draft out to everyone as soon as possible. The handout on local comprehensive plans was distributed to provide information on the elements within the LCP, and provide a typical local comp plan and the action items used by municipalities. Part of our purpose will be to weave together some guidance that assists local municipalities using this kind of format. The handout is

to be used to stimulate some thought on the structure of the guidance within the local planning framework. Statewide planning has a technical paper (#148) hat is a review of natural resource protection provisions that can be built on. Also, Beverly has been taking a detailed look at individual comp plans as well as the water supply system management plans because we believe that putting that information back out in the form that we present it will inform this effort.

Statement: I wanted to comment on the local comprehensive plans: where would transportation become involved with this work? In the instance of Pawtucket and residential development, if a train station would be proposed, how would this be picked up in the comp plan? Are there other elements that would contain clues about water use?

Response: The local comprehensive plans and the elements have an implementation section that provides sufficient detail so that proposed growth would be reflected, including water and sewer-related issues.

Chairman: Its about time to wind up. I think we accomplished our objectives today by getting some very useful information that will be helpful to us in organizing our report. Beverly and I were talking about this during the break. She asked if we had succeeded in provoking discussion. I assured her that we did and that discussion was useful and relevant. Come back next month where we hope to

have more useful discussion. We plan to produce a draft within the next two months.

The next meeting is scheduled for Wednesday, December 8, 2004. The meeting was adjourned at 11:00 A.M.

Respectfully submitted,

Beverly O'Keefe
Supervising Planner

Meeting Attendees:
Bray Erin Brown University
Campbell Jim US Geological Survey
Cassidy Mike
Collins Beth RI Economic Policy Council
Combs Walter RI Department of Health
Crawley Kathy RI Water Resources Board
Good Alicia RI DEM
Griffith Robert RI Water Resources Board
Johnson Ariana RI EPC
Kerr Meg RI Rivers Council
Mariscal Juan Warwick Sewer Authority
Marks Eugenia Audubon Society of RI
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